

Client's ref.: TSMC2003-0128  
Our ref.: 0503-9981-USf/dwwang

**What Is Claimed Is:**

1           1.    A pedestal supporting a substrate in a plasma chamber,  
2 comprising:

3           an insulating base;

4           a conductive layer on the insulating base; and

5           a ceramic cover at least partially covering the conductive  
6 layer, the conductive layer being covered when the  
7 pedestal supports a substrate.

1           2.    The pedestal in claim 1, wherein the conductive layer  
2 further comprises a bottom portion with a bottom width and an  
3 upper portion with an upper width, the upper width being less  
4 than the bottom width and a diameter of the substrate.

1           3.    The pedestal in claim 2, wherein the insulating base  
2 further comprises a recess accommodating the bottom portion of  
3 the conductive layer.

1           4.    The pedestal in claim 1, wherein the ceramic cover  
2 further overlies the insulating base.

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1           5.    The pedestal in claim 1, wherein the ceramic cover  
2 further comprises an opening exposing the conductive layer.

1           6.    The pedestal in claim 2, wherein the ceramic cover  
2 overlies the bottom portion of the conductive layer and further  
3 comprises a hollow portion accommodating the upper portion of  
4 the conductive layer.

1           7.    The pedestal in claim 1, wherein the ceramic cover is  
2 ring-shaped.

1           8.    The pedestal in claim 1, wherein the insulating base  
2 comprises silicon oxide.

1           9.    The pedestal in claim 1, wherein the conductive layer  
2 comprises titanium.

1           10.   The pedestal in claim 1, wherein the ceramic cover  
2 comprises aluminum oxide.

1           11.   A pedestal supporting a substrate in a plasma chamber,  
2 comprising:  
3           an insulating base having a recess;

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4           a conductive layer embedded in the recess; and  
5           a ceramic cover overlying the insulating base and partially  
6           covering the conductive layer;  
7           wherein the conductive layer is covered when the pedestal  
8           supports a substrate.

1           12. The pedestal in claim 11, wherein the conductive layer  
2           further comprises an upper portion, with a width less than the  
3           diameter of the substrate, protruding from the recess.

1           13. The pedestal in claim 11, wherein the conductive layer  
2           further comprises an upper portion, with a width less than the  
3           diameter of the substrate and the width of the other portion of  
4           the conductive layer, protruding from the recess.

1           14. The pedestal in claim 13, wherein the ceramic cover  
2           further comprises a hollow portion accommodating the upper  
3           portion of the conductive layer.

1           15. The pedestal in claim 13, wherein the ceramic cover  
2           further comprises a hollow portion accommodating the upper

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3 portion of the conductive layer and exposing the narrower upper  
4 portion of the conductive layer.

1 16. The pedestal in claim 11, wherein the ceramic cover  
2 is ring-shaped.

1 17. The pedestal in claim 11, wherein the insulating base  
2 comprises silicon oxide.

1 18. The pedestal in claim 11, wherein the conductive layer  
2 comprises titanium.

1 19. The pedestal in claim 11, wherein the ceramic cover  
2 comprises aluminum oxide.

1 20. A pedestal supporting a substrate in a plasma chamber,  
2 comprising:

3 a silicon-oxide base having a recess;  
4 a titanium layer having a bottom portion embedded in the  
5 recess, and an upper portion, narrower than the  
6 bottom portion and the substrate, protruding from the  
7 recess; and

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8           a ring-shaped ceramic cover, having a hollow portion  
9           accommodating the upper portion of the titanium layer  
10          therein, overlying the insulating base and a portion  
11          of the bottom portion of the titanium layer;  
12          wherein the conductive layer is covered when the pedestal  
13          supports the substrate.

1           21. The method as claimed in claim 20, wherein the hollow  
2          portion of the ceramic cover further exposes the upper portion  
3          of the titanium layer.

1           22. The pedestal in claim 20, wherein the ceramic cover  
2          comprises aluminum oxide.